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DEPARTMENT OF NATURAL RESOURCES

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August 31, 2007

Erwin Sass, General Manager
Canyon Fuel Company, LLC
P.O. Box 1029
Wellington, Utah 84542

Subject: Deficiencies for Methane Degasification Wells G-18, G-31 and Access Road
Amendment, Task ID #2828, Canyon Fuel Company, Dugout Mine, C/007/0039

Dear Mr. Sass:

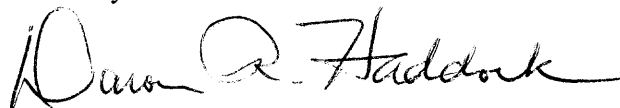
The Division has reviewed your application to construct methane degasification wells G-18, G-31 and an access road at the Dugout Canyon Mine facility.

The Division has determined that there are some deficiencies that must be addressed before a determination can be made that the requirements of the R645 Coal Mining Rules have been met, and an approval can be granted. Those deficiencies are listed as an attachment to this letter.

Each deficiency identifies its author by that author's initials in parentheses, such that your staff can directly communicate with that individual should any questions arise relative to the preparation of Canyon Fuel Company's response to that particular deficiency.

Please respond to these deficiencies as soon as possible such that we may efficiently process your application.

Sincerely

for 
Pamela Grubaugh-Littig
Permit Supervisor

SC
Attachment
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Deficiency List
Task No. #2828
Methane Degas Wells G-18, G-31 and Access Road

The members of the review team include the following individuals:

Priscilla Burton (PB)
Steve Christensen (SC)
Jerriann Ernsten (JE)
Pete Hess (PH)
Wayne Western (WW)

GENERAL CONTENTS

Right of Entry

R645-301-114.100, Attachment 5-3 provides a letter from Arkland Co. to the landowner requesting concurrence with the AWM road construction as described in the amendment. Please indicate whether that concurrence was received. (PB)

PERMIT AREA

R645-301-121.100, Please update the surface disturbed acreage described on page 1-9 of Volume 1 to include sites G18, G19, G31 and the AWM road. (PB)

SOILS RESOURCE INFORMATION

R645-301-222, The Permittee must provide soil consultants credentials for soil taxonomic work. •The Permittee must provide a map with a scale of 1:12,000 showing the soil survey of the site and the GPS locations of test pits. •For each pit, which is dug less than the usual 5 ft. depth of the solum, the soil report must indicate depth to lithic contact or that state bedrock was not encountered, but provide a rationale for a lesser soil pit depth. • The soil descriptions found in App. B of Attachment 2-1 must include details for each horizon such as percent rock fragments, reaction (soil pH), effervescence, evidence (if any) of carbonate concretions or mottling and soil texture following the Schoeneberger, P.J., Wysocki, D.A., Benham, E.C., and Broderson, W.D. 1998 Field Book for Describing and Sampling Soils. Natural Resources Conservation Service, USDA, National Soil Survey Center, Lincoln, NE. •The soils report must include a sketch of the pad sites illustrating the location of the soil pit in relation to the whole site and showing previously disturbed areas, rock outcrops, and dissimilar soil inclusions in the site landscape. •For the roadway, the soil survey should include the location of the soil pits along the proposed road and should provide information such as patterns of occurrence of rock outcrops, different soils (or inclusions) within the map unit, and their proportionate extent along the proposed roadway. (PB)

TOPSOIL AND SUBSOIL

R645-301-121.200, Verify the 4.7 disturbed acres listed for site G-18 shown in Table 1-2 with the volume of topsoil listed for the same site in Table 2-1. • Some statement in the narrative are overreaching, please correct the narrative in Section 222.400 that states “detailed soil series descriptions are presented” to indicate the Order III Map designations were evaluated or verified. Correct the statement in Section 222.400 that “test pits appear to generally correlate to the NRCS soil series map” to read, “correlate to the NRCS Order III Map Units.” Add the word “using” to the last sentence in Section 223 as follows, “and **using** the USDA/NRCS WEB Soil Survey utility.” (PB)

R645-301-231.400, Table 2-2 places topsoil stockpiles 4 and 5 at site G-18, whereas Plate 1 places these two stockpiles at site G-31. Please clarify this discrepancy. (PB)

R645-301-234.210, To demonstrate stability of the topsoil locations, the Division requests cross sections and profiles of the six proposed topsoil stockpiles showing their placement on the road or pads in cross section and profile. (PB)

R645-301-240, Verify the replacement topsoil depths listed for sites G-18, G-19, and G-31, based upon the twelve-inch topsoil salvage depth described in Attachment 2-2 and 5-4. • The Table in Attachment 5-2 indicates the planned year for reclamation work to begin, but no plans are disclosed for sites G-15 - G-19 or G-31 in Attachment 5-2. Please provide some indication as to the life of the well sites. (PB)

HYDROLOGIC RESOURCE INFORMATION

Sediment Yield

The application does not meet the hydrology Environmental Description requirements for sediment yield impacts as provided in R645-301-728.331.

R645-301-728.300- The PHC Determination (Page 5) of the application should be modified. The Permittee should discuss the potential for hydrologic consequences as a result of increased sediment yield from the proposed disturbed areas. Discussion should include a description of the sediment control techniques to be implemented during the operational and reclamation phases of the proposed access road and degas wells. (SC)

The application should include some discussion as to the location of the access road relative to potentially impacted drainages. The application outlines the installation of culverts in five drainages intersected by the proposed construction. Due to the steepness of the topography and resulting flow velocities and volumes to be encountered at the sites, the Division finds that the application has not provided enough information as to flow characteristics of the potentially impacted drainages. (SC)

Water Quality

The application does not meet the requirements of R645-301-728.332.

R645-301-728.332- The Permittee should discuss the potential for water quality impacts to the receiving drainages as a result of the project. The discussion should address impacts to acidity as well as total suspended and dissolved solids (TSS and TDS). (SC)

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Plans and Drawings

The application does not meet the Plans and Drawings requirements for road systems. The Permittee has proposed constructing an access road to be utilized for the construction and operation of degas wells G-18 and G-31. According to Attachment 5-4, the proposed road will be 7,155 feet long (approximately 1.35 acres). Attachment 5-4 of the application contains design information for the proposed access road including: culvert design and sizing information, watershed slope calculations and a figure depicting 5 watersheds that intersect the disturbance associated with G-18, G-31 and the access road. In addition, Figure 1 of Attachment 5-4 depicts a typical road cross section. The cross section depicts the dimensions of the road prism to be constructed. The road width is depicted as approximately 16' with 1 to 1 and 1 to 0.5 slopes depicted on the cut bank of the proposed access road. (SC)

The Permittee must provide additional information relative to the construction of the 1.35-mile access road. The application and Attachment 5-4 do not provide the level of detail and information that is needed in order for the Division to make a finding that the proposed access road has met the requirements of the R645-State of Utah Coal Mining Rules. The following provides a discussion as to the outstanding hydrological information identified by the Division and the regulatory citation that requires it. It should be noted that the following regulatory citations are applicable to all roads (i.e. primary and ancillary). (SC)

R645-301-521.170, R645-301-527.200 and R645-301-527.210 requires a detailed description of each road to be constructed used or maintained within the proposed permit area. The Permittee's description should include a map, appropriate cross sections, and the following: specifications for each "road width, road gradient, road surface, road cut, fill embankment, *culvert*, bridge, and *drainage ditch* and *drainage structure*". In light of the steep topographic conditions that will be encountered, the application needs to provide additional design drawings and plan details that depict the hydraulic/hydrologic structures to be constructed. (SC)

The design drawings/plans should include: inlet/outlet protection for the culverts, culvert specifications and plan drawings, water bar design drawings and specifications as well as any other plans/drawings for the sediment control techniques to be utilized (i.e. silt fence, straw bales etc.). (SC)

The steep gradient of the undisturbed drainages and the necessity to install culverts at road crossings in at least five locations has raised a concern within the Division relative to erosion protection at both the inlets and outlets of these culverts. The calculated flows and the gradients / methods of installation to not appear to have sufficient designs included in the Task ID 2828 application to adequately protect the channel on the inlets or down gradient of the outlets. The Permittee must provide the following relative to the five culverts being proposed to control the AMV road; (PH)

- 1) Engineering designs for inlet and outlet protection for the undisturbed bypass culverts C-1 to C-5.
- 2) A design for the water bars, which are to be used to subdivide the road runoff.
- 3) A road cross section which shows the designed ditch which runs parallel to the toe of the cut bank. A general ditch design is requested. A different design for each length of road reporting to the water bar directing the flow to the outslope is not necessary. (PH)

Performance Standards

The application does not meet the requirements for Performance Standards of Road Systems and Other Transportation Facilities as provided under R645-301-741 and -742.400.

R645-301-741 requires each permit application to include site-specific plans for drainage control from both the disturbed and undisturbed areas.

The Permittee should provide a written description outlining the components and design considerations for controlling the drainage from the disturbed areas. The description should include a discussion for the construction phase as well as the reclamation phase for the proposed degas wells and access road. In addition, the Permittee should provide justification that their proposed designs will provide for adequate drainage control as outlined by the regulations. (SC)

Plate 1 of Attachment 5-4 depicts the locations of the water bars and indicates that they will be placed at "appropriate locations". The Permittee should provide further discussion as to what factors and conditions will be taken into account in determining water bar placement (i.e. slope, flow lengths, velocities etc). (SC)

R645-301-742.411- outlines the requirement that "the design and construction or reconstruction of roads will incorporate appropriate limits for surface drainage control, culvert placement, culvert size and any necessary design criteria established by the Division". The Permittee must provide a narrative description and justification as to how the use of water bars and berms will provide adequate surface drainage control for the road. Attachment 5-4 provides runoff and containment calculations for the berms to be utilized in for the soil stockpiles, but there is no discussion and/or calculations provided for the berms to be utilized on the access road. The Permittee should demonstrate the ability of the access road berms to adequately contain the design storm event of a 10 year 24 hour event (as utilized in the culvert sizing calculations). The Permittee should demonstrate that

the berms and water bars will minimize sedimentation over the out slopes of the degas well pads and access road. (SC)

The Permittee should also provide a brief discussion within the text of the application that explains the methods utilized in sizing the culverts and provide justification that they will safely pass the design storm event. (SC)

R645-301-527.230 and 527.240- require the Permittee to provide a maintenance plan describing how the roads will be maintained throughout their life to meet the design standards as well as a commitment that if a road is damaged by a catastrophic event, such as a flood or earthquake, the road will be repaired as soon as practical after the damage has occurred. The Permittee should provide the information and subsequent commitment to maintain the road as described above. (SC)

Diversions: General

The application does not meet the Diversions: General requirements as outlined in the R645-State of Utah Coal Mining Rules. Page 7-9 of the application states, "No stream channel diversions are planned at the well sites". Page 7-13 states, "No diversions will be constructed as part of the drilling or operational phases of the project". However, the application clearly demonstrates that a total of 5 culverts (ranging in size from 18"-36") will be utilized in connection with this project. Culverts are considered 'diversions' as outlined in the regulations.

R645-301-742.300- The Permittee should provide information (both written as well as the correlating plan drawings) that demonstrate the proposed diversions of five drainages will be designed, located, constructed maintained and used to: be stable and prevent, to the extent possible, additional contributions of suspended solids. A figure provided in Attachment 5-4 depicts 5 watersheds that will necessitate the placement of culverts within their respective drainages. Installing a culvert is considered a Diversion per R645-State of Utah Coal Mining Rules. The Permittee must provide discussion as to how the proposed access road's design and culvert installations will not impact these drainages. (SC)

Stream Buffer Zones

The application does not meet the Operational Plan stream buffer zone requirements as provided in R645-301-731.600. R645-301-731.600 prohibits surface disturbance within 100 feet of a perennial or intermittent stream, unless authorized by the Division.

R645-301-731.600- The Permittee should provide a discussion as to whether the stream buffer zone requirements apply to the affected drainages. In the event that a 100' buffer zone is required yet located in areas impractical or impossible to establish, the Permittee should provide the Division with a commitment to establish buffer zone markers where possible as provided for in R645-301-521.261. (SC)

Sediment Control Measures

The application does not meet the requirements for the Operational Plan Sediment Control Measures to be utilized per R645-301-741 and R645-301-742.411.

R645-301-741- requires site-specific plans that describe the plans and techniques to be utilized for the control of drainage from disturbed and undisturbed areas. The Permittee should provide a detailed description (written narrative with references to design drawings and plans) of the sediment control techniques to be implemented during the operational and reclamation phases of the proposed access road and degas well. (SC)

The Permittee should also provide justification and evidence that the proposed sediment control measures will be effective in controlling sediment removal from the disturbed areas. The discussion should take into account the maintenance of the proposed sediment control structures. (SC)

PERMIT APPLICATION FORMAT AND CONTENTS

R645-301-121.200, The TES table (pg. 3-10) is outdated and the heading does not correctly describe the associated list. The Permittee must update the list and correct the heading of the table to clearly reflect the intent of the accompanying list. • The Permittee must correct the references for the NSO and northern goshawk exclusionary periods (pg. 3-6, 3-13). (JE)

VEGETATION AND WILDLIFE RESOURCES

R645-301-321.100, The Permittee must include an explanation concerning the lack of vegetation analysis for the AMV road and a mention that this was an exception. Furthermore, that in the future, the Permittee will follow the regulation (R645-301-321.100) and vegetation guidelines for all proposed disturbances. • The Permittee must characterize (as previously requested) the approximate percentage of previously disturbed area and the percentage of area that has experienced natural recovery for the degas wells and AMV road. Note: These requirements are particularly important for this project because they would provide qualitative insight as to the reclamation potential for the road that would be approximately 1.36 miles and disturb approximately 14 acres of land. This road is planned to be constructed in a very steep area that would require extreme protective measure during construction and operations as well as during reclamation. (JE)

R645-301-322.200, The statement in the MRP (e.g., pg. 3-7) does not support the findings from the 2005 report, which is more accurate than the 2007 report. The Permittee must change the statement in the MRP to reflect the more accurate description of bat presence, diversity, and habitat. The Permittee is welcome to call Jerriann Ernstsén for more information on the bats and their habitat in that area. (JE)

R645-301-333, The Permittee must provide information on how they will protect the habitat along the upper channel during construction, operations, and reclamation of the AMV road. The Permittee must also address whether spring SC-96 is active and how they will minimize impact to that spring. The Permittee must include related discussion that will also consider R645-301-342, -357.365, -358, -358.400 as they relate specifically to the AMV road and incorporate those statements in the related sections of the application. (JE)

Note: The Division did not require a bat survey for the proposed 2007 degas projects. The Division will rely on the 2005 report instead of the 2007 report for making decisions for the 2007 and possible future amendments. One questionable part of the 2007 report was that the sampling locations for the survey were too far to the north of the proposed disturbances. The sampling locations would have been better positioned 1) along Pace Creek, 2) at the disturbed sites, or 3) two along Pace Creek and two along the upper jeep trail. Other questionable parts of the report include 1) the choice to only survey for two nights and 2) stating that there is limited habitat given the results of the 2005 report and the field observations. (JE)